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that promote the use of the 746-764 MHz and 776-794 MHz bands for mobile services will advance the development of new technologies, and will serve the public interest.

From the perspective of both a service provider and a manufacturer of mobile communications, Intek strongly supports the promotion of spectrally efficient frequency allocations for mobile services. By efficiently allocating spectrum, Intek believes that the Commission can ensure that entities that have long been without access to capacity will have the chance to acquire spectrum for the much needed expansion of specialized wireless services.

## **II. Background**

In the instant rulemaking proceeding, the Commission has requested comment on its various proposals to adopt rules to govern the flexible use of fixed, mobile, and broadcasting services in the 746-764 MHz and 776-794 MHz bands. Despite generally favoring the adoption of progressive and flexible technical rules for licensees, Intek believes that the Commission's proposal to allow mobile and broadcasting services to share the same frequency band will prove to be impractical.

Intek believes that the allocation of this spectrum affords mobile service providers an essential opportunity to gain access to greatly needed bandwidth for the provision of their services. Given the congestion in existing frequency bands and the scarcity of alternatives for mobile service providers, frequency bands below 1000 MHz should be reserved as a premium for mobile services. Intek therefore urges the Commission to allocate the 746-764 MHz and 776-794 MHz bands for mobile use.

The flexible use allocation proposed by the Commission will only serve to deter investment in potential licensees, contribute to widespread interference problems between

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<sup>1</sup> "In Re Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules," WT Docket 99-168, *Notice of Proposed Rulemaking*, FCC 99-97 (rel. June 3, 1999) (*NPRM*).

dissimilar service providers, and cause delay in the provision of new and efficient mobile services for these frequencies. From Intek's perspective, the Commission's proposal to license the spectrum for fixed, mobile, and broadcasting services disserves the public interest. Any short term maximization that may derive from auction revenues for such an allocation, will unquestionably be lost by the long term incompatibility of such services to share the bandwidth, and the administrative burden that will result from the Commission's need to resolve numerous interference and service provision problems.

### **III. Discussion**

Under its statutory mandate, the Commission can only exercise its authority to provide flexible use of the spectrum where it finds that such an allocation is in the public interest, does not deter investment in communications services and systems or technology development, and does not result in harmful interference among users.<sup>2</sup> The Commission has specifically requested comment regarding whether its proposed use of the 746-764 MHz and 776-794 MHz bands complies with its obligations under the Communications Act. Intek believes that the Commission's proposals in the instant *NPRM* are inconsistent with the Act's dictates.

The use and demand for mobile services remains unabated, and the competition among mobile services continues to increase. Over the course of the last decade, the provision of mobile service has significantly benefited the American public through the development of new technologies and services, through an increase in revenues for the Treasury, and through the growth of employment in the telecommunications sector. In light of the numerous public interest benefits derived from mobile services, the Commission should not impose regulations that will impede the emergence of new and innovative mobile technologies and businesses. Moreover, as

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<sup>2</sup> 47 U.S.C. § 303(y)(2).

a practical matter, mobile service, especially private mobile service, can operate much more economically in frequencies below 1000 MHz. On the other hand, fixed and broadcasting services are better equipped to provide service on the higher frequencies than mobile services are because such services are more able to control propagation conditions. Thus, in Intek's opinion, the Commission's allocation of frequencies below 1000 MHz should, wherever possible, be reserved for mobile and mobile related operations.

In the instant *NPRM*, the Commission seeks to maximize the application of this spectrum. The Commission's desire to afford licensees the flexibility to provide new services in the 746-764 MHz and 776-794 MHz bands, however, cannot be achieved at the expense of practical utilization of the spectrum allocation. Notwithstanding the protection proposals set forth in this *NPRM*, Intek maintains that the mixing of such diverse services as mobile and broadcasting operations will likely cause considerable interference problems. Given its already constrained resources, the Commission is ill equipped to resolve the interference disputes that will result from technically dissimilar services coexisting in this band. Additionally, as a general matter, the provision of broadcasting service is inconsistent with a paired spectrum allocation. Because broadcasting and mobile use cannot naturally coexist in the same environment without creating complex interference issues, the Commission's proposal to allow both services in the 746-764 MHz and 776-794 MHz bands ultimately dilutes the use and potential value of the bandwidth.

Moreover, future licensees in these bands are likely to be confined in their ability to access additional spectrum in adjacent expansion areas because adjacent users will be providing dissimilar service. For example, a mobile service provider might face significant business complications in attempting to acquire spectrum held by an adjacent broadcast user, whereas

such an acquisition would be far less complicated from a like service provider subject to the same service regulations.

Thus, the interference and expansion problems born from the flexible spectrum use proposed by the Commission disserve the public interest and are likely to deter the participation of potential bidders in the 746-764 MHz and 776-794 MHz bands. In fact, as witnessed by the disappointing participation in the Wireless Communications Service (WCS) auction, which marked the Commission's last effort to promote flexible spectrum use, an overly broad approach to spectrum flexibility can have the undesired effect of deterring the investment in new technologies and services.

The 746-764 MHz and 776-794 MHz bands have been used by television stations on channels 60-62 and 65-67. Pursuant to the Balanced Budget Act of 1997, the Commission has been directed to reallocate this spectrum for commercial purposes.<sup>3</sup> The Commission is not, however, constrained to adopt its current proposals for a full range of services. As Intek has fully explained above, the Commission's proposals for such spectrum sharing will likely impede both service opportunities and service providers.

Instead, Intek proposes that the Commission allocate the 746-764 MHz and 776-794 MHz bands strictly for mobile services. In so doing, the Commission should strive to ensure the compatibility of services and the parity of its regulations. Further, Intek believes that in adopting service specific rules for these frequencies the Commission must build upon the recent accomplishments achieved in the *Refarming* proceeding and continue to strive for spectral efficiency.<sup>4</sup> In this regard, the Commission must adopt a minimum standard of 6.25 kHz

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<sup>3</sup> See The Balanced Budget Act of 1997, Pub. L. No. 105-33, 111 Stat. 251 (1997).

<sup>4</sup> See "Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignments Policies of the Private Land Mobile

channelization and the capability of 4.8 kbps data per equivalent voice channel. By so doing, the Commission will demonstrate to other band users the importance of achieving improved spectrum efficiency. In the final analysis, the Commission's regulations must promote the most efficient and economic use of the limited spectrum available for mobile operations.

Further, the Commission should guard against adopting any rules that might foreclose the ability of private mobile service providers from utilizing at least a portion of the spectrum in the 746-764 MHz and 776-794 MHz bands. In this regard, Intek would support a mechanism that would allow private wireless licensing without necessarily having to acquire the spectrum through competitive bidding. One method of allowing private wireless users to have suitable access to a portion of this spectrum could arguably be achieved through a user-fee as required basis. Given the finite nature of spectrum, its too important a commodity to auction away simply for the sake of doing so. In light of the needs of the private wireless community, the Commission should explore whatever possibilities might exist beyond simply auctioning the entire allocation of the 746-764 MHz and 776-794 MHz bands.

Subject to Intek's above-mentioned concerns that broadcasting and mobile services cannot efficiently operate in the same frequency band, Intek favors the adoption of technically flexible rules for mobile service providers in the 746-764 MHz and 776-794 MHz bands. However, because this spectrum may not be available for practical use for some time, Intek believes that the Commission must ensure that the rules it adopts are forward looking and progressive. Thus, Intek favors modeling its rules after both Part 27 and Part 90 in a manner that facilitates the most efficient use of the 746-764 MHz and 776-794 MHz bands, and that allows for the deployment of new and innovative mobile services.

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Services, PR Docket 92-235, *Second Report and Order*, 12 FCC Rcd. 14307 (1997); *Third Memorandum Opinion and Order*, FCC 99-138 (rel. Jul. 1, 1999).

For example, with regard to progressively resolving interference problems, commenters in other Commission proceedings have proposed the introduction of an Adjacent Channel Coupled Power (ACCP) approach for limiting out-of-band emissions in certain frequency bands. Intek would support the development of rules to adopt such an approach for limiting out of band emissions in these and other frequency bands. As it has stated in other proceedings, Intek believes that the use of direct measurements of interfering energy is a more reliable indicator than the Commission's traditional emissions masks. In this regard, Intek urges the Commission to adopt rules that take into consideration the necessary protections required by all types of receivers and the proper measurement techniques to be used in the Commission's equipment authorization process.

In anticipation of the continued technological development to occur in these frequency bands and others, but subject to its concerns regarding the interference caused by dissimilar services sharing the 746-764 MHz and 776-794 MHz bands, Intek supports Commission efforts to afford new mobile licensees as much flexibility as practically possible. Accordingly, Intek urges the Commission to adopt rules for the 746-764 MHz and 776-794 MHz bands that promote the efficient use of the bandwidth by mobile service providers.

#### **IV. Conclusion**

As explained fully above, Intek urges the Commission to adopt its positions regarding the licensing of the 746-764 and the 776-794 MHz bands consistent with the views expressed in these Comments.

Respectfully submitted,

**INTEK Global Corp.**

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